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Acute Coronary Syndromes

THERAPEUTIC HYPOTHERMIA FOR MYOCARDIAL PROTECTION IN ST ELEVATION MYOCARDIAL INFARCTION: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROL TRIALS

Poster Contributions
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Background: Studies have suggested that therapeutic hypothermia (TH) in acute ST elevation myocardial infarction (STEMI) might be beneficial. The supportive evidence showing beneficial outcomes is limited. We performed a meta-analysis of randomized controlled trials (RCT) to assess the efficacy and safety of TH in patients with STEMI.

Methods: We conducted electronic searches of RCT. The efficacy endpoints were all-cause mortality and major adverse cardiac events (MACE). Safety endpoints included ventricular arrhythmias (VA), bradyarrhythmias (BA), bleeding, heart failure (HF), and repeat infarction (RI). Odds ratios (OR) and 95% confidence intervals (CI) were computed using Peto's method (PM). Fixed-effect model was used; if heterogeneity (I2)>40, effects were analyzed using a random model.

Results: Six RCT (CHILL MI, COOL MI, Dixon, ICE IT, RAPID MI-ICE, VELOCITY) were included, with a total of 861 patients. Overall survival was 96,8%. There was no significant benefit form TH for the efficacy outcome of all-cause mortality (OR 1.47, 95% CI 0.68-3.18; p=0.32) or MACE (OR 1.56, 95% CI 0.87-2.82; p=0.13). There was no significant difference seen for the secondary outcomes of VA, BA, bleeding, HF and RI (Figure). Exclusion of a single study from the analysis did not alter the overall result. No heterogeneity was observed, except for HF, were random-effect was used.

Conclusion: Current analysis of RCT studies did not reveal any benefit of adjunctive TH in patients with acute STEMI.